

PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Harold O. Treece)
Serial No.: Unknown) Group Art Unit Unknown
Filed: Concurrently herewith) Examiner Unknown
For: UNIVERSAL CEMENTING PLUG)

jc549 U.S. PTO
09/175664
10/20/98

INFORMATION DISCLOSURE STATEMENT

TO THE ASSISTANT COMMISSIONER FOR PATENTS

SIR:

Section 1. Preliminary Statements

Applicant submits herewith patents, publications or other information, of which he is aware which he believes may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made, an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner.

Section 2. Form PTO-1449 (Modified)

A Form PTO-1449 (Modified) is filed concurrently herewith.

**Section 3. Statement As To Information
Not Found In Patents Or Publications**

The following is disclosed in the Description of the Prior Art in the present application:

In the process of preparing a well for testing and/or production, a casing is positioned in the well and cemented in place. Typically, at the beginning of the cementing job in rotary-drilled wells, the casing and the wellbore are usually filled with drilling mud. In many areas, to reduce contamination on the interface between the mud and cement, a bottom plug is released from a plug container and pumped ahead of the cement slurry. Such plugs have wipers of an elastomeric material thereon to wipe the casing of any accumulated mud film so that the mud is pushed ahead of the bottom plug.

When the bottom plug reaches floating equipment such as a float collar or float shoe at the bottom of the casing string, a fluid pressure differential created across the plug ruptures a rubber diaphragm at the top of the plug and allows the cement slurry to proceed down the casing through the plug and floating equipment and then up an annulus space defined between the casing and the wellbore.

When all of the cement has been mixed and pumped into the casing string, a top cementing plug is released from the plug container. The top plug also has wipers of elastomeric material

thereon. The function of the top plug is to follow the cement and wipe any accumulated cement film from the inside of the casing. The top plug is also designed to reduce the possibility of any contamination or channelling of the cement slurry with the drilling mud that is used to displace the cement column down the casing and into the annular space between the casing and the wellbore. The top cementing plug is typically solid in construction, and the design is such that when it reaches the bottom cementing plug at the float collar or float shoe, the top cementing plug causes a shut-off of fluids being pumped into the casing. This causes a normal pressure rise at the surface and notifies the operator that the cementing job is complete.

The landing of the top plug lessens the possibility of any further displacement of the cement slurry and provides a better quality of cement slurry around the bottom of the casing where a good cement bond to the casing is required.

Currently, two different cementing plugs are used in the cementing operation, one for the top and one for the bottom. The bottom plug has a shearable member, such as the rubber diaphragm previously mentioned, which shears when a specific fluid pressure differential is applied thereto. The top plug is substantially solid.

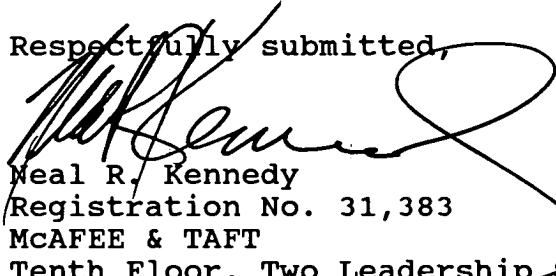
**Section 4. Copies Of Listed Information
Items Accompanying This Statement**

Legible copies of all items listed in Form PTO-1449 (Modified) accompany this Information Disclosure Statement.

**Section 5. Identification Of Person Making
This Information Disclosure Statement**

The person making this statement is the practitioner who signs below on the basis of information supplied by the inventor and in the practitioner's file.

Respectfully submitted,



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